

## **SPECIFICATIONS**

### **DESCRIPTIVE TITLE OF INVENTION**

**Gas Hot-Water-Tank Air Flow Control Mechanism.**

### **Inventor:**

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**CROSS REFERENCE TO RELATED APPLICATIONS - Not Applicable**

**STATEMENT REGARDING FED SPONSORED R7D - Not Applicable**

**REFERENCE TO SEQUENCE LISTING - Not Applicable**

**DIAGRAMS - 2**

## BACKGROUND OF THE INVENTION

### Gas Hot-Water-Tank Air Flow Control Mechanism

The typical North American gas-hot-water-tank system involves an internal flame, and an exhaust chimney that penetrates up through the middle of the tank. An inherent inefficiency occurs after the tank has reached operating temperature and the flame shuts off. The chimney now promotes negative effect, taking heat from the tank as it continues to draft. Although this problem has been addressed on large commercial heaters by electronically controlled venting above the flame, that is, where the chimney leaves the tank, it has not been applied to domestic hot-water-tanks and it does require electricity to function. The air control mechanism I am proposing controls the air flow at the input end, or bottom of the tank, is designed primarily for domestic tank purposes, and is controlled by a balance of natural air-draw and gravity. The benefit is realized by the minimizing of uncontrolled air-flow and subsequent heat loss. One further advantage of this system is the protection against pilot-light blow-out, in the event that a tank is located in a drafty location

## BRIEF SUMMARY OF THE INVENTION

### Gas Hot-Water-Tank Air Flow Control Mechanism

A device for the reduction of heat loss normally incurred in presently designed gas-fired-hot-water-tanks. This invention controls the undesirable upward airflow caused by the chimney-effect after the flame has switched off. The device consists of a collar which surrounds the bottom of the tank to the floor, eliminating random airflow, while facilitating calibrated swinging portals, which allow airflow when required and cutting off air-flow upon flame switch-off. The controlling forces being, the draw created by the flame and gravity, contribute to eliminate the problems incurred with electronically controlled mechanisms.

## DETAILED DESCRIPTION

### Gas Hot-Water-Tank Air Flow Control Mechanism

This device consists of an inflammable, impervious collar(5) that fits snugly around the base of the hot-water-tank(1), facilitated by a slip-fitting assembly(8). General air-flow into the flame chamber is restricted by an air seal(7), on the upper inside edge of the collar as well as along the edge that rests on the floor. A series of portal housings(6), mounted in the collar consist of a hinged(9), and swinging portal(10). The natural upward draft created by the fire-box(2), lifts the swinging portal gate(10), and gravity pulls it down, upon the flame shut-off. The inefficient result of the otherwise continued non-regulated upward air-flow is thereby eliminated